

The Third International Conference
on
Nitride Semiconductors
ICNS3

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Montpellier '99

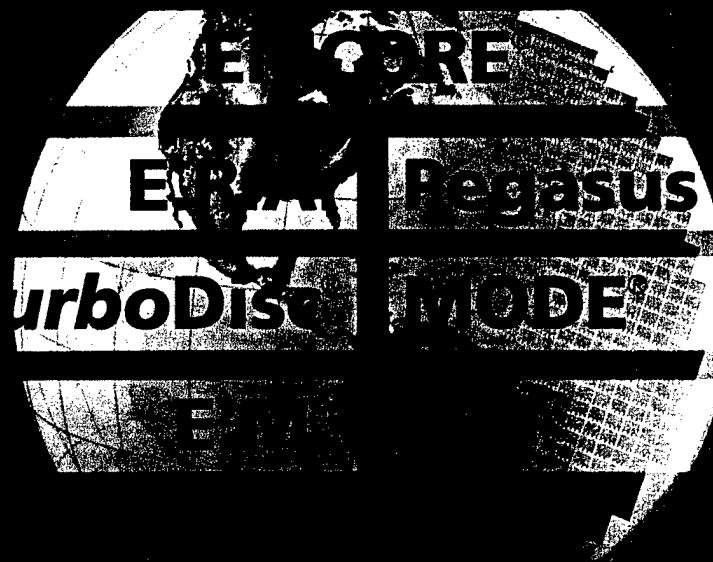
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Montpellier, France

July 4-9, 1999

PROGRAMME

Resources to Fuel the Evolution



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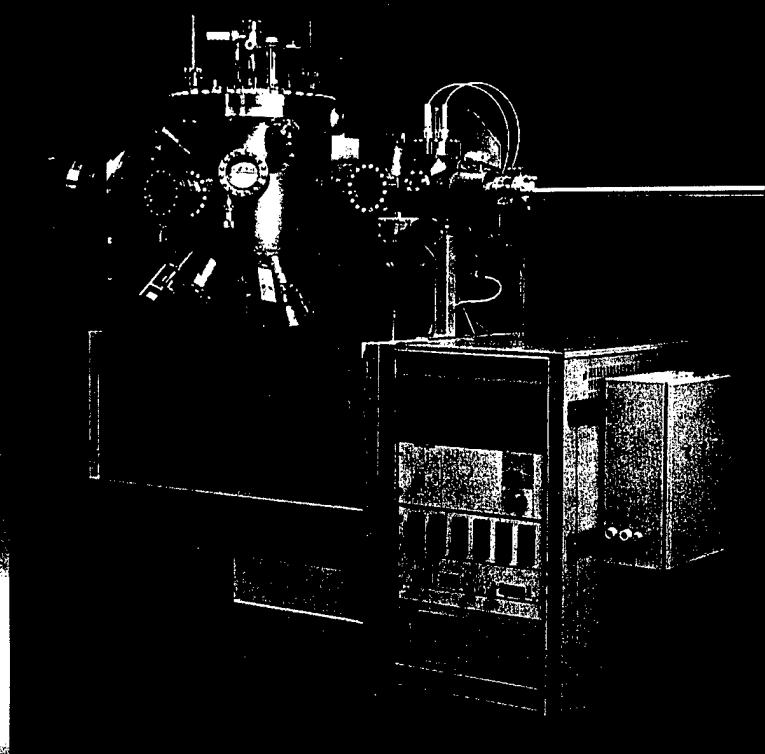
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**GALLIUM NITRIDE AND RELATED COMPOUNDS
BLUE LASERS & HIGH POWER ELECTRONICS**

RIBER COMPACT 21



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GENERAL PROGRAMME

Sunday July 4th, 1999

15.00-19.00 REGISTRATION

Monday July 5th, 1999

08.00 Registration
09.00-09.30 OPENING SESSION - Room : PASTEUR
09.30-10.30 Conferences
10.30-11.00 OPENING OF THE EXHIBITION - COFFEE BREAK
11.00-12.30 Working session
12.30-14.30 LUNCH BREAK
14.30-16.45 Working session
16.45-18.45 POSTER SESSION I - COFFEE BREAK (*offered by EMCORE Corp.*)
19.00 WELCOMING COCKTAIL - Room : SALON CENTRAL Level 3
Offered by Mr. Georges FRECHE, Member of Parliament and Mayor of Montpellier, and the local council

Tuesday July 6th, 1999

08.30-10.30 Working session
10.30-11.00 VISIT OF THE EXHIBITION - COFFEE BREAK
11.00-12.30 Working session
12.30-14.30 LUNCH BREAK
14.30-16.45 Working session
16.45-18.45 POSTER SESSION II - COFFEE BREAK (*offered by RIBER S.A.*)
18.45 Round table

Wednesday July 7th, 1999

08.30-10.45 Working session
10.45-11.15 VISIT OF THE EXHIBITION - COFFEE BREAK
11.15-12.30 Special session in honour of Professor AKASAKI
12.30-14.30 LUNCH BREAK
14.30-16.45 Working session
16.45-18.45 POSTER SESSION III - COFFEE BREAK (*offered by EPICHEM LTD.*)
18.45 CONCERT - Room : PASTEUR

Thursday July 8th, 1999

08.30-10.30 Working session
10.30-11.00 VISIT OF THE EXHIBITION - COFFEE BREAK
11.00-12.30 Working session
12.30-14.30 LUNCH BREAK
14.30-17.00 Working session
19.15 Departure by bus for the VALMAGNE ABBEY
Meeting place : "Parvis" of the Convention Centre (in front of the level 3 Entrance, side Esplanade)
20.00 CONFERENCE BANQUET (*for registered persons*)

Friday July 9th, 1999

08.30-10.30 Working session
10.30-11.00 VISIT OF THE EXHIBITION - COFFEE BREAK (*offered by AIXTRON AG*)
11.00-12.15 Working session
12.15 CLOSING SESSION

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SCIENTIFIC PROGRAMME

* = invited

Monday July 5th, 1999

Session sponsored by PICOGIGA

09:00 **OPENING SESSION**

09:30 **Mo_01** GALLIUM NITRIDE AS SEEN BY THE INDUSTRY
Jean Yves Duboz*

10:00 **Mo_02** PRESENT STATUS OF InGaN-BASED LEDs AND LASER DIODES
Shuji Nakamura*

Session sponsored by EMCORE Corp.

11:00 **Mo_03** INFLUENCE OF InGaN INHOMOGENEITY ON NITRIDE LASERS
K. Domen*, A. Kuramata, R. Soejima, S. Kubota, K. Horino, T. Tanahashi

11:30 **Mo_04** EFFECT OF THE CONFINEMENT LAYER DESIGN ON THE LUMINESCENCE OF
InGaN/GaN SINGLE QUANTUM WELLS
S. Keller, S. B. Fleischer, S. F. Chichibu, J. E. Bowers, U. K. Mishra, S. P. DenBaars

11:45 **Mo_05** COMPARISON OF InGaN/GaN QUANTUM WELLS GROWN ON SAPPHIRE AND
BULK GaN SUBSTRATES
S. Sakai, T. Sugahara, Q. Fareed, S. Tottori, M. Lachab, T. Wang

12:00 **Mo_06** INVESTIGATION OF THE OPTICAL PROPERTIES IN InGaN/GaN MULTIPLE QUANTUM WELLS
AND SINGLE QUANTUM WELL
T. Wang, D. Nakagawa, M. Lachab, T. Sugahara, S. Sakai

12:15 **Mo_07** COMPARISON OF OPTICAL PROPERTIES BETWEEN GaN AND InGaN QUANTUM WELLS
P. Riblet, H. Hirayama, A. Kinoshita, A. Hirata, T. Sugano, Y. Aoyagi

Session sponsored by AIXTRON AG

14:30 **Mo_08** PRESSURE STUDIES OF DEFECTS AND IMPURITIES IN NITRIDES
T. Suski*

15:00 **Mo_09** THE EFFECT OF DOPING AND GROWTH STOICHIOMETRY ON THE PROPERTIES
OF THREADING EDGE DISLOCATION IN GaN
A.F. Wright*, K. Leung

15:30 **Mo_10** INVESTIGATIONS ON THE V-DEFECT FORMATION IN GaInN-GaN MULTI QUANTUM
WELL STRUCTURES
J. Off, F. Scholz, A. Kniest, O. Gfrörer, A. Hangleiter, G. Brockt, H. Lakner

15:45 **Mo_11** STIMULATED EMISSION AND THE MOTT TRANSITION IN GaN EPILAYERS UNDER
HIGH-DENSITY EXCITATION
R.A. Taylor, S. Hess, K. Kyhm, J.F. Ryan, G.P. Yablonskii, E.V. Lutsenko,
V.N. Pavlovskii, M. Heuken

16:00 **Mo_12** PHOTOLUMINESCENCE INTENSITY AND SPECTRAL DISTRIBUTION OF GaN FILMS
ON SiC SUBSTRATES THE DEPENDENCE ON DISLOCATION DENSITY AND STRUCTURE
P. Hacke, A. Kuramata, K. Domen, T. Tanahashi

16:15 **Mo_13** CHARACTERISATION OF GALLIUM NITRIDE DEVICE STRUCTURES USING TRANSMISSION
ELECTRON MICROSCOPY
D.M. Tricker, A.N. Bright, C.J. Humphreys

16:30 **Mo_14** CATHODOLUMINESCENCE DETERMINATION OF STRAIN-INDUCED SHIFTS AT
MICROCRACKS IN GaN/AIGaN MULTI QUANTUM WELLS
C.E. Norman, R.A. Hogg, A.J. Shields, N. Lizuka

POSTER SESSION 1

Tuesday July 6th

Session sponsored by CREE Research Inc.

8:30	Tu_01	ROLE OF POLARIZATION INDUCED EFFECTS IN GROUP III NITRIDE BASED DEVICES O. Ambacher*, L.F. Eastman, M. Stutzmann
9:00	Tu_02	SPONTANEOUS POLARIZATION VERSUS PIEZOELECTRIC FIELD EFFECTS IN III-V NITRIDES Fabio Bernardini*, Vincenzo Fiorentini
9:30	Tu_03	STARK-LIKE LADDER IN PIEZOELECTRIC GaInN/GaN QUANTUM WELLS C. Wetzel, T. Takeuchi, H. Amano, I. Akasaki
9:45	Tu_04	DIRECT OBSERVATION OF PYROELECTRIC FIELDS IN InGaN/GaN AND AlGaN/GaN HETEROSTRUCTURES O. Gfrörer, J. Off, F. Scholz, A. Hangleiter
10:00	Tu_05	SCATTERING, RECOMBINATION AND PIEZOELECTRICITY AT DISLOCATIONS IN GROUP III-NITRIDES M. Albrecht, S. Christiansen, T. Remmele, H.P. Strunk, A. Cremades, G. Salviati, H. Banzhoff, H. Lichte
10:15	Tu_06	INTRINSIC INFRARED LUMINESCENCE FROM InGaN LAYERS K.P. O'Donnell, R.W. Martin, S. Pereira, A. Bangura, M.E. White, W. Van der Stricht, K. Jacobs

Session sponsored by RIBER S.A.

11:00	Tu_07	EPITAXIAL GROWTH OF GAN, AlN AND InN: 2D/3D TRANSITION AND SURFACTANT EFFECTS B. Daudin*, G. Feuillet
11:30	Tu_08	MOCVD GROWTH AND OPTICAL CHARACTERIZATION OF STACKED InGaN QUANTUM DOTS FOR LASER APPLICATIONS K. Tachibana, T. Someya, Y. Arakawa
11:45	Tu_09	GaN QUANTUM STRUCTURES WITH FRACTIONAL DIMENSIONS - FROM QUANTUM WELL TO QUANTUM DOT Satoru Tanaka, Ikuo Suemune, Peter Ramvall, Yoshinobu Aoyagi
12:00	Tu_10	OPTICAL PROPERTIES OF STRUCTURES WITH SINGLE AND MULTIPLE InGaN INSERTIONS IN A GaN MATRIX A.V. Sakharov, W.V. Lundin, I.L. Krestnikov, V.A. Semenov, A.S. Usikov, A.F. Tsatsul'nikov, Yu.G. Musikhin, M.V. Baidakova, Zh.I. Alferov, N.N. Ledentsov, A. Hoffmann, D. Bimberg
12:15	Tu_11	In ON GaN SURFACES: ALLOY FORMATION, ORDERING AND SURFACTANT BEHAVIOR J. Neugebauer, T. Zywietz, M. Scheffler, J. Northrup

Session sponsored by Délégation Générale à l'Armement

14:30	Tu_12	OPTICAL SPECTROSCOPY OF InGaN/GaN QUANTUM WELLS E. Berkowicz, D. Gershoni*, G. Bahir, A.C. Abare, S.P. Denbaars, L.A. Coldren
15:00	Tu_13	MOLECULAR BEAM EPITAXY OF NITRIDE BASED QW STRUCTURES N. Grandjean*, J. Massies
15:30	Tu_14	PROPERTIES OF QUANTUM WELL EXCITONS IN GaN/AlGaN AND InGaN/GaN/AlGaN UV, BLUE, GREEN, AND AMBER LIGHT EMITTING DIODE STRUCTURES S.F. Chichibu, T. Deguchi, T. Sota, S.P. DenBaars, S. Nakamura
15:45	Tu_15	DYNAMICS OF EXCITONS IN GaN-AlGaN MULTIPLE QUANTUM WELLS WITH VARYING DEPTHS, THICKNESSES AND BARRIER LAYERS P. Lefebvre, M. Gallart, T. Taliercio, B. Gil, J. Allègre, H. Mathieu, N. Grandjean, M. Leroux, J. Massies, P. Bigenwald
16:00	Tu_16	BAND FILLING AND ENERGY RELAXATION IN InGaN/GaN-MULTIPLE QUANTUM WELL STRUCTURES T. Riemann, D. Rudloff, J. Christen, A. Krost, M. Lünenbürger, H. Protzmann, M. Heuken
16:15	Tu_17	HIGH-RESOLUTION PHOTOLUMINESCENCE AND REFLECTANCE SPECTRA OF HOMOEPITAXIAL GaN-LAYERS K. Kornitzer, T. Ebner, M. Grehl, K. Thonke, R. Sauer, C. Kirchner, V. Schwegler, M. Kamp, M. Leszczynski, I. Grzegory, S. Porowski
16:30	Tu_18	TEMPORARY DYNAMICS OF EXCITON-POLARITONS IN GaN FILMS G. Malpuech, A.V. Kavokin

POSTER SESSION 2

18:45 Round table - sponsored by EMCORE Corp.

Thursday July 8th

Session sponsored by CNRS

8:30	Th_01	ANOMALOUS BEHAVIOR OF NITRIDE ALLOYS A. Zunger*
9:00	Th_02	LATTICE DYNAMICS OF TERNARY ALLOYS Friedhelm Bechstedt*
9:30	Th_03	ENERGY BAND/LATTICE MISMATCH ENGINEERING IN QUATERNARY AlInGaN/GaN HETEROSTRUCTURE M. Asif Khan, J.W. Yang, G. Simin, Hans zur Loyer, R. Bicknell-Tassius, R. Gaska, M.S. Shur, G. Tamulaitis, A. Zukauskas
9:45	Th_04	MOVPE GROWTH AND LUMINESCENCE PROPERTY OF GaAsN ALLOYS WITH HIGHER NITROGEN CONCENTRATIONS K. Onabe, D. Aoki, J. Wu, H. Yaguchi, Y. Shiraki
10:00	Th_05	MECHANISM FOR LIGHT EMISSION IN GaNAs/GaAs STRUCTURES GROWN BY MOLECULAR BEAM EPITAXY I.A. Buyanova, W.M. Chen, P.N. Hai, B. Monemar, H. Xin, C. W. Tu
10:15	Th_06	MOVPE GROWTH OF In-RICH In _x Ga _{1-x} N (0.5 ≤ x ≤ 1) FILMS ON a-Al ₂ O ₃ (0001) A. Yamamoto, Y. Nakagawa, T. Sugiura, A. Hashimoto

Session sponsored by University Montpellier II

11:00	Th_07	CONDUCTION BAND ENERGY SPECTRUM OF TWO DIMENSIONAL ELECTRONS IN GaN/AlGaN HETEROJUNCTIONS W. Knap*, E. Frayssinet, C. Skierbiszewski, C. Chaubet, M.L. Sadowska, D. Maude, M. Asif Khan, M.S. Shur
11:30	Th_08	RECORD HIGH MOBILITY AlGaN/GaN HETEROSTRUCTURES BASED ON OPTIMIZATION OF GaN BY MBE B. Heying, C. Elsass, I. Smorchkova, T. Mates, E. Haus, P. Fini, S.P. DenBaars, U. Mishra, J.S. Speck
11:45	Th_09	GROWTH OF HIGH MOBILITY AlGaN/GaN HETEROSTRUCTURES BY AMMONIA-MOLECULAR BEAM EPITAXY James B. Webb, H. Tang, J. Bardwell
12:00	Th_10	ENHANCED TWO-DIMENSIONAL ELECTRON GAS CONFINEMENT EFFECT ON TRANSPORT PROPERTIES IN AlGaN/InGaN/AlGaN DOUBLE-HETEROSTRUCTURES N. Maeda, T. Saitoh, K. Tsubaki, T. Nishida, N. Kobayashi
12:15	Th_11	WURTZITE GaN SURFACE RECONSTRUCTIONS STUDIED BY STM T. Sakurai, Q.K. Xue, Q.Z. Xue, Y. Hasegawa, I.S.T. Tsong, T. Ohno

Session sponsored by RENISHAW Ltd.

14:30	Th_12	GROWTH AND CHARACTERIZATION OF HIGH-EFFICIENCY InGaN MQW BLUE AND GREEN LEDs FROM LARGE-SCALE PRODUCTION MOCVD REACTORS C.A. Tran*, R.F. Karlicek Jr., M.G. Brown, I. Eliashevich, A. Whitcomb, A. Gurary, R. Sclar
15:00	Th_13	MULTIWAFER PLANETARY REACTORS FOR THE PRODUCTION OF GaN BASED COMPOUNDS M. Heuken*
15:30	Th_14	HETEROEPINTAX OF DOPED AND UNDOPED CUBIC III-NITRIDES D.J. As*, K. Lischka
16:00	Th_15	MICROSTRUCTURE OF CUBIC AND HEXAGONAL GaN GROWN ON SAPPHIRE (0001) BY ECR-MBE WITH VARIOUS ELECTRIC BIASES T. Araki, T. Minami, Y. Nanishi
16:15	Th_16	THE INFLUENCE OF STRUCTURAL PROPERTIES ON THE MECHANISMS OF OPTICAL AMPLIFICATION IN CUBIC InGaN J.Chr. Holst, A. Hoffmann, I. Broser, F. Bertram, T. Riemann, J. Christen, D.J. As, D. Schikora, B. Schoettker, K. Lischka
16:30	Th_17	COMPREHENSIVE INVESTIGATION ON THE MIXING AND REACTING BEHAVIORS OF PRECURSORS DURING METAL ORGANIC VAPOR PHASE EPITAXY OF GALLIUM NITRIDE T.F. Kuech, Jingxi Sun, K.S. Boutros, J.M. Redwing
16:45	Th_18	GROWTH OF HIGH QUALITY Ga-POLAR GaN LAYERS ON GaN SUBSTRATES AFTER NOVEL REACTIVE ION ETCHING J.L. Weyhe, A. Zauner, P.D. Brown, F. Karouta, A. Wysmolek, P.R. Hageman, S. Porowski

Wednesday July 7th

Session sponsored by NICHIA Chemical Industries

8:30 **We_01** STATUS OF NITRIDE BASED EMITTERS ON SiC.
K. Doverspike, H. Dieringer, D. Emerson, K. Habereran, D. Slater, H.S. Kong, G.E. Bulman, J. Edmond

9:00 **We_02** CW OPERATION OF AlGaN-GaN LASER DIODES
T. Asano, K. Yanashima, T. Asatsuma, T. Hino, T. Yamaguchi, S. Tomiya, T. Kobayashi, M. Ikeda

9:30 **We_03** FABRICATION AND CHARACTERIZATION OF GaN-BASED LASER DIODE GROWN ON THICK N-AlGaN CONTACT LAYER
T. Takeuchi, T. Detchprohm, M. Yano, M. Yamaguchi, N. Hayashi, M. Iwaya, K. Isomura, K. Kimura, H. Amano, I. Akasaki, Y. Kaneko, S. Watanabe, Y. Yamaoka, R. Shioda, T. Hidaka, Y. Kaneko, N. Yamada

9:45 **We_04** CONTINUOUS-WAVE OPERATION OF INGAN MULTI-QUANTUM-WELL LASER DIODES GROWN ON AN N-GAN SUBSTRATE WITH A BACKSIDE N-CONTACT
M. Kuramoto, C. Sasaoka, Y. Hisanaga, A. Kimura, A.A. Yamaguchi, H. Sunakawa, N. Kuroda, M. Nido, A. Usui, M. Mizuta

10:00 **We_05** RECOMBINATION DYNAMICS IN In_xGa_{1-x}N MULTIPLE-QUANTUM-WELL BASED LASER DIODES UNDER HIGH PHOTO-EXCITATION
Yukio Narukawa, Yoichi Kawakami, Shigeo Fujita, Shuji Nakamura

10:15 **We_06** 346 nm EMISSION FROM AlGaN MULTI-QUANTUM-WELL LIGHT EMITTING DIODE
T. Nishida, N. Kobayashi

10:30 **We_14** ROOM-TEMPERATURE CONTINUOUS-WAVE OPERATION OF INGAN MULTIPLE QUANTUM WELL LASER DIODES WITH AN ASYMMETRIC WAVEGUIDE STRUCTURE
Michael Kneissl, David P. Bour, Chris G. Van de Walle, Linda T. Romano, John E. Northrup, Rose M. Wood, Mark Teepe, Noble M. Johnson

11:15 **SPECIAL SESSION IN HONOUR OF PROFESSOR AKASAKI**

Session sponsored by Thomas Swan & Co. Ltd.

14:30 **We_07** MOCVD GROWTH OF GROUP-III NITRIDE BASED HETEROSTRUCTURES FOR HIGH POWER, HIGH FREQUENCY ELECTRONICS
S. Den Baars, U. Mishra, C. Chen, G. Parish, S. Keller, Y.F. Wu, D. Kapolnek, B. Keller

15:00 **We_08** RESULTS, POTENTIAL AND CHALLENGES OF HIGH POWER GAN-BASED TRANSISTORS
Lester F. Eastman

15:30 **We_09** FIRST DEMONSTRATION OF AlGaN/GaN DUAL-GATE MODULATION-DOPED FIELD-EFFECT TRANSISTORS
C.H. Chen, K. Krishnamurthy, Y.F. Wu, S. Keller, G. Parish, M. Rodwell, Steven P. Denbaars, U.K. Mishra

15:45 **We_10** DC AND RF CHARACTERIZATION OF AlN/GaN HFETs
I. Daumiller, P. Schmid, C. Kirchner, M. Kamp, L. Pond, K.J. Ebeling, C. Weitzel, E. Kohn

16:00 **We_11** AlGaN/GaN HFETs WITH NEW OHMIC AND SCHOTTKY CONTACTS FOR THERMAL STABILITY UP TO 400°C
J. Hilsenbeck, W. Rieger, E. Nebauer, G. Tränkle, J. Würfl, A. Ramakrishnan, H. Obloh

16:15 **We_12** SCHOTTKY BARRIER PHOTODETECTORS ON EPITAXIAL LATERAL OVERGROWN GaN
E. Monroy, F. Calle, E. Muñoz, B. Beaumont, F. Omnes, P. Gibart

16:30 **We_13** REDUCTION OF OHMIC CONTACT RESISTIVITY ON P-TYPE GAN BY SURFACE TREATMENT
J.L. Lee, J.K. Kim, J.W. Lee, Y.J. Park, T. Kim

POSTER SESSION 3

18:45 **CONCERT**

Friday July 9th

Session sponsored by Thomson-CSF

8:30 **Fr_01** RECENT PROGRESS IN SELECTIVE AREA GROWTH AND EPITAXIAL LATERAL OVERGROWTH OF III-NITRIDES
K. Hiramatsu*, H. Miyake, A. Motogaito, H. Sone, Y. Kawaguchi, N. Sawaki, Y. Lyechika, T. Maeda

9:15 **Fr_02** PENDEO-EPIТАXY VS. LATERAL EPITAXIAL OVERGROWTH OF GaN - A COMPARATIVE STUDY
Tsvetanka S. Zheleva, Waeil M. Ashmawi, Kenneth A. Jones, Darren Thomson, Thomas Gehrke, Kevin Linthicum, Robert F. Davis

9:30 **Fr_03** SELECTIVE AREA GROWTH OF GaN ON STRIPE-PATTERNED (111) Si SUBSTRATE BY METALORGANIC VAPOR PHASE EPITAXY
Y. Kawaguchi, Y. Honda, M. Yamaguchi, N. Sawaki, K. Hiramatsu

9:45 **Fr_04** TEM STUDY OF THE BEHAVIOUR OF DISLOCATIONS DURING ELOG GaN GROWTH
V. Bousquet, P. Vennéguès, B. Beaumont, P. Gibart

10:00 **Fr_05** SELECTIVE GROWTH OF CUBIC GaN ON PATTERNED GaAs (100) SUBSTRATES BY METALORGANIC VAPOR PHASE EPITAXY
Jun Wu, Masahiro Kudo, Akira Nagayama, Ryuji Katayama, Hiroyuki Yaguchi, Kentaro Onabe, Yasuhiro Shiraki

10:15 **Fr_06** STRUCTURAL, OPTICAL, AND ELECTRICAL PROPERTIES OF GaN LATERALLY OVERGROWN ON Si(111) SUBSTRATES FOR DEVICE APPLICATIONS
H. Marchand, N. Zhang, J.P. Ibbetson, L. Zhao, B. Moran, Y. Golan, S.J. Rosner, G. Girolami, P.T. Fini, S. Keller, J.S. Speck, S.P. DenBaars, U.K. Mishra

Session sponsored by European Research Office - US Army

11:00 **Fr_07** DEFECT AND STRESS CONTROL IN GROUP III NITRIDES USING LOW TEMPERATURE INTERLAYERS
H. Amano*, M. Iwaya, N. Hayashi, T. Kashima, T. Takeuchi, C. Wetzel, I. Akasaki, J. Han, S. Hearne, J.A. Floro, E. Chason, J. Figiel

11:30 **Fr_08** GaN/SiC QUASI-SUBSTRATES FOR GaN-BASED LEDs
C. Kirchner, V. Schwegler, M. Kamp, K.J. Ebeling, Yu. Melnik, A. Nikolaev, D. Tsvetkov, V. Dmitriev

11:45 **Fr_09** GaN SUBSTRATES: GROWTH and CHARACTERIZATION
Olga Kryliouk, Michael Reed, Michael Mastro, Timothy Anderson, Bruce Chai

12:00 **Fr_10** GaN ON Si(111): FROM GROWTH OPTIMIZATION TO OPTICAL PROPERTIES OF QUANTUM WELL STRUCTURES
F. Semond, B. Damilano, S. Vézian, N. Grandjean, M. Leroux, J. Massies

12:15 **CLOSING SESSION**

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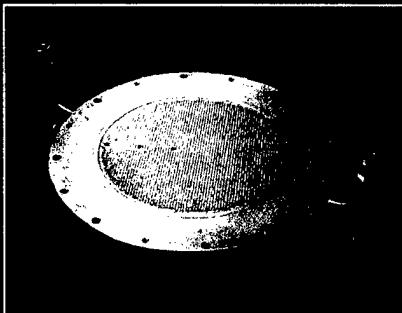
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POSTER SESSION 1

Monday July 5th

Mo_P001 THE GaN GROWTH BY A HOT FILAMENT METALORGANIC VAPOR PHASE DEPOSITION TECHNIQUE
T. Boufaden, A. Rebey, I. Halidou, Z. Chine, B. El Jani

Mo_P002 NEW PRETREATMENT OF SAPPHIRE FOR GaN DEPOSITION
Dongjin Byun, Hyun-Jeong Kim, Chang Hee Hong, Gyeungho Kim, Dong-Wha Kum

Mo_P003 MULTIPARAMETER STATISTICAL DESIGN OF EXPERIMENTS FOR GaN GROWTH OPTIMIZATION
A. Hass Bar-Ilan, S. Zamir, O. Katz, B. Meyler, J. Salzman

Mo_P004 THICK HYDRIDE VAPOUR PHASE EPITAXIAL GaN LAYERS GROWN ON A-PLANE SAPPHIRE WITH DIFFERENT BUFFERS
T. Paskova, E. Goldys, J. Birch, E.B. Svedberg, P. Runesson, S. Tungasmita, B. Monemar

Mo_P005 MOCVD GROWTH OF CUBIC GALLIUM NITRIDE : THE EFFECT OF THE V/III RATIO
M. Moret, S. Ruffenach-Clur, N. Moreaud, O. Briot, J. Calas, R.L. Aulombard

Mo_P006 RHEED STUDIES OF GROUP III NITRIDES GROWN BY MBE
C.T. Foxon, C.S. Davis, S.V. Novikov, O.H. Hughes

Mo_P007 THICK GaN GROWTH ON GaAs (111) SUBSTRATES AT 1000°C WITH HVPE
F. Hasegawa, M. Minami, K. Sunaba, T. Suemasu

Mo_P008 EXPERIMENTAL AND THEORETICAL STUDY OF THE GROWTH OF GaN ON SAPPHIRE BY HVPE
A. Trassoudaine, E. Aujol, P. Disseix, D. Castelluci, R. Cadoret

Mo_P009 GROWTH CONTROL OF CUBIC GaN AND CUBIC GaInN (GaAlN) ALLOYS BY RHEED OSCILLATIONS
E. Martinez-Guerrero, B. Daudin, G. Feuillet, H. Mariette, P. Aboughe-nze, Y. Monteil, A. Philippe, C. Bru-Chevallier

Mo_P010 GROWTH AND CHARACTERISATION OF GALLIUM NITRIDE FILMS PRODUCED BY LOW TEMPERATURE REACTIVE SPUTTERING
W.T. Young, S.R.P. Silva, M. Kuball, J.V. Anguita, J.M. Shannon, K.P. Homewood, B.J. Sealy

Mo_P011 QUANTUM CHEMICAL STUDIES OF GAS PHASE REACTIONS BETWEEN TMA, TMG, TMI AND NH3
A. Tachibana, K. Nakamura, O. Makino, H. Tokunaga, N. Akutsu, K. Matsumoto

Mo_P012 MBE GROWTH OF HEXAGONAL InN FILMS ON SAPPHIRE WITH DIFFERENT INITIAL GROWTH STAGES
V.V. Mamutin, V.A. Vekshin, V.Yu. Davydov, V.V. Ratnikov, T.V. Shubina, V.V. Emtsev, S.V. Ivanov, P.S. Kop'ev

Mo_P013 Mg-DOPED HEXAGONAL InN/Al₂O₃ FILMS GROWN BY MBE
V.V. Mamutin, V.A. Vekshin, V.Yu. Davydov, V.V. Ratnikov, Yu. Kudriavtsev, B.Ya. Ber, V.V. Emtsev, S.V. Ivanov

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J. Y. Lin, R. Mair, J. Li, H.S. Kim, H.X. Jiang

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Daisuke Sugihara, Akihiko Kikuchi, Kazuhide Kusakabe, Shinichi Nakamura, Yousuke Toyoura, Takayuki Yamada, Katsumi Kishino

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S.W. Kim, N. Kamata, S. Hino, T. Kodama, H. Hirose, T. Yamada*, T. Suzuki

Mo_P017 LOW-TEMPERATURE SYNTHESIS OF GALLIUM NITRIDE THIN FILMS USING REACTIVE RF-MAGNETRON SPUTTERING
V. Bondar, I. Kucharsky, B. Simkiv, Yu. Dubov, S. Popovich

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J. Suda, T. Kurobe, T. Masuda, H. Matsunami

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W.V. Lundin, A.S. Usikov, A.V. Sakharov, V.V. Tretyakov, D.V. Poloskin

Mo_P020 INFLUENCE OF AMBIENT GAS ON THE EPITAXIAL LATERAL OVERGROWTH OF GaN BY METALORGANIC VAPOR PHASE EPITAXY
Y. Kawaguchi, S. Nambu, M. Yamaguchi, N. Sawaki, H. Miyake, K. Hiramatsu, K. Tsukamoto, N. Kuwano, K. Oki

Mo_P021	MOVPE GROWTH OF HIGH QUALITY CUBIC GaN ON GaAs - THE ROLE OF GROWTH RATES AND BUFFER LAYER STRUCTURES M. Funato, M. Ogawa, T. Ishido, Sz. Fujita, Sg. Fujita
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Mo_P024	IN SITU MONITORING OF GAN GROWTH IN MULTIWAFER MOVPE REACTORS M. Heuken, H. Protzmann, M. Luenenbuerger, H. Juergensen
Mo_P025	Mg-INDUCED KINETICAL CHANGES IN THE GROWTH OF CUBIC AND HEXAGONAL GaN BY MOLECULAR BEAM EPITAXY Guido Mula, Bruno Daudin, Philippe Peyla
Mo_P026	SUBLIMATION GROWTH OF AlN S.Yu. Karpov, D.V. Zimina1, Yu.N. Makarov, E.N. Mokhov, A.D. Roenkov, M.G. Ramm, Yu.A. Vodakov
Mo_P027	MODELING STUDY OF HYDRIDE VAPOR PHASE EPITAXY OF GaN S.Yu. Karpov, D.V. Zimina, Yu.N. Makarov, B. Beaumont, J. Nataf, P. Gibart, M. Heuken, H. Juergensen, A. Krishnan
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Mo_P029	INTERFACE TREATMENT OF GaN/InGaN-MULTI QUANTUM WELL STRUCTURES GROWN IN PRODUCTION TYPE MOVPE SYSTEMS M. Heuken, M. Luenenbuerger, J. Blaesing, A. Krost, H. Protzmann
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Mo_P031	GROWTH AND EVAPORATION KINETICS OF GaN IN AMMONIA ATMOSPHERE S.Yu. Karpov, R.A. Talalaev, Yu.N. Makarov, N. Grandjean, J. Massies
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Mo_P033	INFLUENCE OF THE GaN SEED LAYER AND GROWTH PARAMETERS ON SELECTIVE EPITAXY OF GaN BY HVPE O. Parillaud, V. Wagner, H.J. Bühlmann, M. Illegems
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Mo_P035	REMOTE PLASMA MOCVD GROWTH AND PROCESSING OF GaN BY REAL TIME ELLIPSOMETRY M. Losurdo, P. Capezzuto, G. Bruno
Mo_P036	PROPERTIES OF HOMOEPITAXIAL AND HETEROEPITAXIAL GaN LAYERS GROWN BY PLASMA-ASSISTED MBE M.A. Sánchez-García, F.B. Naranjo, J.L. Pau, A. Jiménez, E. Calleja, E. Muñoz, S.I. Molina, A.M. Sánchez, F.J. Pacheco, R. García
Mo_P037	SURFACTANT EFFECT OF As ON THE GROWTH OF GaN ON Si(111) SUBSTRATES BY PLASMA ASSISTED MBE A. Jiménez, M.A. Sánchez-García, F.B. Naranjo, J.L. Pau, E. Calleja, E. Muñoz, S.I. Molina, A.M. Sánchez, F.J. Pacheco, R. García
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Mo_P039	STRUCTURE OF AlN AND GaN BULK CRYSTAL GROWN BY HVPE M. Albrecht, H.P. Strunk, Yu. Melnik, A. Nikolaev, I. Nikitina, V. Dmitriev, F. Demangeot, J. Frandon, M. Renucci
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Mo_P044	GROWTH OF BULK AlN BY PHYSICAL VAPOR TRANSPORT Tim Housain, V. Dmitriev, P. Zhou, H.N. Jayatirtha, M.G. Spencer, V. Dimitriev, Yu Meink, A. Nikolaev
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Mo_P048	GROWTH OF BORON NITRIDE THIN FILMS ON SILICON SUBSTRATES USING NEW ORGANOBORON PRECURSORS Jin-Hyo Boo, Carsten Rohr, Wilson Ho
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Mo_P060	INFLUENCE OF MBE GROWTH TEMPERATURE ON THE PROPERTIES OF CUBIC GaN GROWN DIRECTLY ON GaAs SUBSTRATES A. Georgakilas, M. Androulidaki, K. Tsagaraki, K. Amimer, G. Constantinidis, N.T. Pelekanos
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Mo_P069	EFFECT OF ANNEALING ON DEFECTS IN AS-GROWN AND γ -RAY IRRADIATED n-GaN LAYERS N. Shmidt, V. Emtsev, I. Krestnikov, W. Lundin, A. Osinsky, D. Poloskin, A. Sakharov, A. Usikov
Mo_P070	PHASE SEPARATION AND ORDERING CO-EXISTING IN MOCVD $In_xGa_{1-x}N$ M.K. Behbehani, E.L. Piner, X. Liu, N.A. El-Masry, S.M. Bedair
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Mo_P073	DETERMINING OF STRESSES IN GaN THIN FILMS BY X-RAY DIFFRACTION ANALYSIS L. Axelrud, V. Bondar, V. Davydov, I. Kucharsky
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Mo_P075	IN-EDGE X-RAY ABSORPTION FINE STRUCTURE OF INN AND INGAN FILMS K.P. O'Donnell, R.W. Martin, M.E. White, J.F.W. Mosselmans, Qixin Guo
Mo_P076	SPECTROSCOPIC IMAGING OF InGaN LAYERS K.P.O'Donnell, C. Trager Cowan, S. Pereira, A. Bangura, C. Young, M.E. White, M.J. Tobin
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Mo_P095	STUDY OF PHASE-SEPARATED THIN LAYERS OF INGAN GROWN BY METALORGANIC-VAPOR-PHASE-EPITAXY P. Li, G. Li, S.J. Chua, W. Wang, X.C. Wang, Y.P. Guo
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Mo_P099	INFRARED PHOTOLUMINESCENCE AND EPR IN BULK GaN CRYSTALS HEAVILY DOPED WITH Cr AND V I.V. Ilyin, R.A. Babunts, P.G. Baranov, E.N. Mokhov, V.A. Khrantsov
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Mo_P101	LOCAL VIBRATIONAL MODES IN p-TYPE GaN OBSERVED BY RAMAN SCATTERING H. Harima, T. Inoue, Y. Sone, S. Nakashima, M. Ishida, M. Taneya
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Mo_P105	HIGH QUALITY GaN LAYERS GROWN BY MOCVD ON Si(111) – SUBSTRATES A. Strittmatter, A. Krost, D. Bimberg



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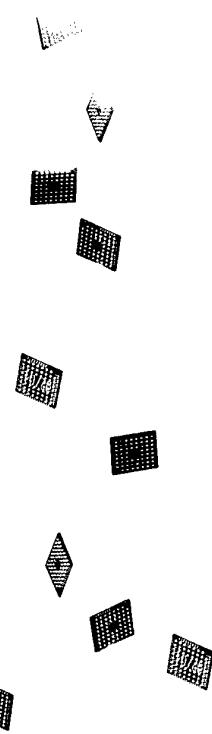
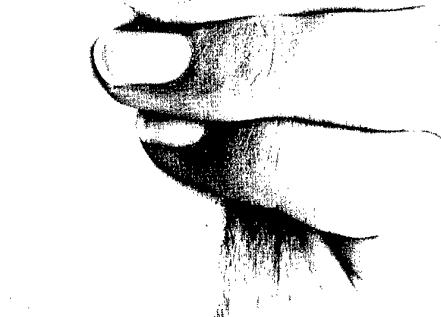
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POSTER SESSION 2

Tuesday July 6th

Tu_P001 SOLID INCORPORATION OF AlGaN AND INFLUENCE OF GROWTH INTERRUPTION ON GaN/AlGaN QUANTUM WELL STRUCTURES GROWN BY MOCVD
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Tu_P002 METALORGANIC MOLECULAR BEAM EPITAXY OF $\text{In}_x\text{Ga}_{1-x}\text{N}$ FOR A VISIBLE SPECTRAL RANGE IN PHOTOLUMINESCENCE
Seong-Ju Park, Min-Ho Kim, Jun-Kyu Cho

Tu_P003 PROPERTIES OF NANOCRYSTALLINE GALLIUM NITRIDE THIN FILMS GROWN ON MONOCRYSTALLINE SUBSTRATES AND BUFFER LAYERS
V. Bondar

Tu_P004 GROWTH AND OPTICAL CHARACTERIZATION OF $\text{In}_x\text{Ga}_{1-x}\text{N}$ DOTS RESULTING FROM A 2D-3D TRANSITION
C. Adelmann, J. Simon, N. Pelekanos, Y. Samson, G. Feuillet, B. Daudin

Tu_P005 InGaN/GaN MQW AND Mg-DOPED GaN GROWTH USING A SHUTTER CONTROL METHOD BY RF-MOLECULAR BEAM EPITAXY
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Tu_P006 ENHANCED BLUE-LIGHT EMISSION FROM InGaN/GaN QUANTUM WELLS GROWN OVER A MULTILAYERED BUFFER ON SILICON SUBSTRATE BY METAL ORGANIC CHEMICAL VAPOR DEPOSITION
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Ph. Gilet, A. Chenevas-Paule, Ph. Duvaut, L. Grenouillet, A. Million

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P. Ruterana, C. Gontrhan, F. Mascle, R. Aguiniet, M.A. Poisson, W. Van der Stricht

Tu_P009 GROWTH AND RELAXATION OF GaN/AlGaN HETEROSTRUCTURES GROWN BY MBE ON PRESSURE GROWN GaN(0001) SUBSTRATES
M. Albrecht, H.P. Strunk, C.T. Foxon, D. Korakakis, I. Grzegory, S. Porowski

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K. Domen, A. Kuramata, T. Tanahashi

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J. Gotoh, K. Uchida, A. Niwa, S. Gotoh, T. Yang, J. Kasai, T. Mishima

Tu_P012 DISLOCATIONS IN GaN and GaN/AlN HETEROSTRUCTURES
J.L. Rouvière, B. Daudin, G. Feuillet, J.L. Weyher

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A.V. Kavokin, G. Malpuech, G. Panzarini

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P. Tronc, Yu.E. Kitaev, G. Wang, M.F. Limonov, G. Neu

Tu_P018 EXTENDED TIGHT BINDING AND THERMOCHEMICAL MODELING OF III-NITRIDE HETEROSTRUCTURES AS A FUNCTION OF TEMPERATURE, STRAIN, AND PRESSURE
Hilmi Ünlü

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R.W. Martin, K.P. O'Donnell

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Tu_P044	RED LUMINESCENCE OF Mg-DOPED GaN M.W. Bayerl, M.S. Brandt, E.R. Glaser, A.E. Wickenden, D.D. Koleske, R.L. Henry, M. Stutzmann
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Tu_P051	TIME-RESOLVED PHOTOLUMINESCENCE OF CUBIC GaN GROWN BY METALORGANIC VAPOR PHASE EPITAXY H. Yaguchi, J. Wu, H. Akiyama, M. Baba, K. Onabe, Y. Shiraki
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POSTER SESSION 3

Wednesday July 7th

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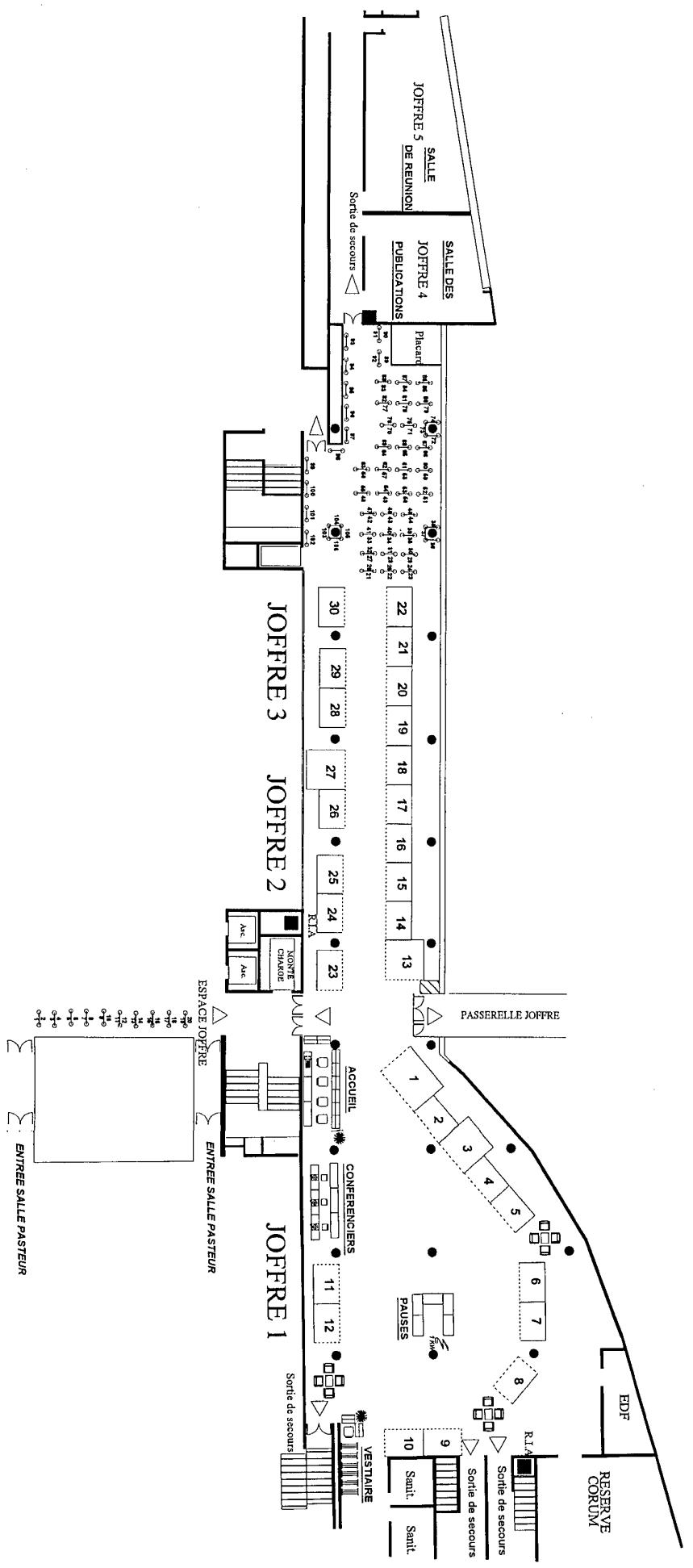
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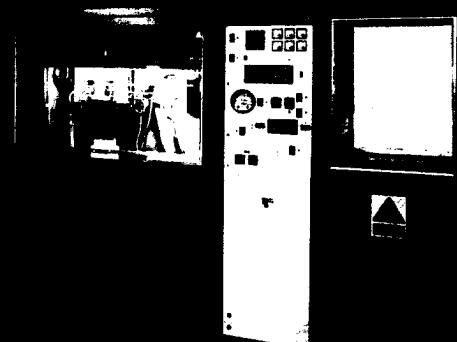
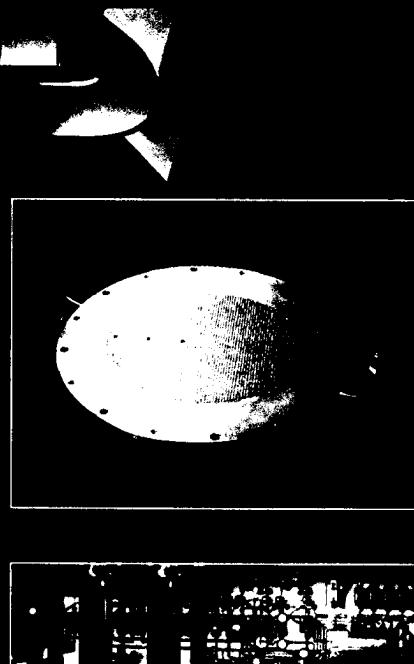
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